DOCUMENT RESUME

ED 307 807 FL 017 996

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TITLE Predicting Support for Foreign Languages: A Model for Secondary Schools.
PUB DATE 89
NOTE 34p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Data Collection; Factor Analysis; *Predictor Variables; *Program Attitudes; *Research Methodology; School Support; Secondary Education; *Second Language Programs; State Surveys
IDENTIFIERS Tennessee

ABSTRACT

A study investigated the rationale of and procedures for gathering data on foreign language programs in secondary schools in Tennessee. The study transcends previous foreign language surveys by suggesting a method of presenting data in a useful format by analyzing foreign language support (FLSPT) in terms of quantifiable factors or "favorable conditions" that may affect the environment and level of foreign language support in secondary schools. Factors considered include: population by county, density of population by county, per capita income by county, per capita tax levied by county, percentage of total county government expenditures for education, average teacher salaries by county, percentage of professional employees by county, percentage of residents by county with four or more years of higher education, and percentage of teachers by county with master's degrees and above. (DJD)

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Predicting Support for Foreign Languages: A Model for Secondary Schools

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ABSTRACT

The present study attempts to explain the rationale of and discuss the procedures for gathering data on foreign language programs in secondary schools in Tennessee. The study transcends previous foreign language surveys in that it suggests a method of presenting the data in a useful format by analyzing foreign language support (FLSPT) in terms of quantifiable factors or "favorable conditions" which may affect the environment and level of foreign language support in secondary schools. It is hoped that this investigation may provide the profession with a framework for a support model which may eventually be of use to other state foreign language organizations, supervisors, and educational agencies.

INTRODUCTION

Since 1979 there has been no lack of national studies and position papers on the necessity of strengthening foreign language (FL) programs in the nation's educational system--at all levels, from elementary schools to universities. Some funding has been made available from both public and private sources in amounts which are impressive when measured against the level in the 1970s, but meager compared to math/science support. The implementation of these national initiatives at the local level runs the gamut from little to spectacular activity. Many of those who are involved in this implementation require statistical information in order to make good use of available funding. But beyond the data on current Spanish or German enrollments and Latin or French teacher trainees, there is an increasingly evident need for meaningful statistical analyses. What does one say to a state legislator, for example, who feels that pupils from disadvantaged backgrounds should not be required to study a foreign language because they have other, more pressing, educational needs; or to a school board that claims the county is too poor to support "non-essential" programs; or to a principal who believes that there is no fair way of comparing rural schools with their larger urban counterparts? While the

present study gives no definitive answers to all these questions, it does provide objective data which may affect the environment for FL support in our public schools. Armed with both data and a statistical interpretation of the information, FL supporters can more effectively conteract negative arguments based on emotions and lack of knowledge.

BACKGROUND

Periodical surveys of FL enrollments in secondary schools at national and state levels serve the public and the profession by providing essential information which offers both a quantitative overview of FL classes at a given time and an indication of trends revealing increases or decreases in FL classes over time. The most recent national survey of public secondary schools by state, for example, reports that approximately 4.5 million public secondary school students were enrolled in FL courses in grades 7-12 in 1985, a thirty-percent increase over FL enrollments in 1982 (Dandonoli,7,p.457). At the state level, FL enrollment surveys can be an invaluable source of information to state boards of education and local education agencies in planning instructional needs for the future. Beyond the collection and reporting of strictly quantitative data on secondary school FL offerings, surveys may concern themselves with the

quality of those offerings. Sims and Hammond (16) combine both descriptive and anecdotal evidence in explaining conditions which contribute to exemplary secondary school FL programs across the nation.

National FL mandates and agendas (1,8,18), the creation of various FL committees and councils (12,15), and, most recently, the establishment of a National Foreign Language Center, may have indeed contributed to public awareness and support of FL and international studies in our public schools. Disregarding the often alarmist rhetoric of national mandates (Lange,9) and remaining aware that these mandates in and of themselves "cannot internationalize American education" (Bray,3,p.6), such broad-based activity can nonetheless be instrumental in increasing the confidence of FL teachers at all levels of instruction and in spurring our multi-level professional organizations on to higher degrees of activism.

FL professional organizations at the state level can be most effective in identifying and enhancing support for foreign language programs in public schools. It cannot be over-emphasized that effective promotion of FL study requires focused, concrete, and reliable sources of information (See Royer and McKim,13,p.17,passim). The first task in such a state-wide mission is the unearthing of both

quantifiable and unquantifiable factors which are thought to contribute to FL support (FLSPT) in the state's public schools. Although quantifiable factors alone are insufficient in explaining FLSPT at the local level, they add an important dimension and can be analyzed to determine the magnitude of their contribution, with the results used as a foundation in reporting to state boards of education and to other constituents inside and outside the profession in order to strengthen support for FLs in public schools.[1]

Assessing support for secondary school foreign language programs can be a daunting task if the plan is to do it with any degree of accuracy and consistency in order to make it truly useful. Already in the initial stages of data collection there may be problems in attaining a reasonable response rate on survey questionnaires.[2] In addition, information derived for longitudinal studies may be difficult to interpret if periodically gathered information does not retain a consistent format. Relying on data published by state education agencies may also be problematic; such data may, because of budget fluctuations and priorities, be sporadic, and formats may vary from year to year, making comparisons difficult (Campana,4).

Happily, access to powerful personal or mainframe computers now makes it possible to systematize and update FL data in a comparatively facile manner. In the case of Tennessee, where the Foreign Language Teaching Association (TFLTA) has underwritten costs for annual surveys, a consistent and highly accurate data base on FL programs in public and private schools has been established and circulated to the appropriate state and local agencies. At various times over the past several years, such surveys have been used successfully to improve the status of FLs in the state. This data base serves also as a source for ongoing analyses of quantitative factors affecting FLSPT at the local level.

FLSPT IN TENNESSEE

FL offerings in Tennessee have increased dramatically over the past five years (see Table I). The main cause of the dramatic increase is the establishment of an entrance requirement of two years of FL for all state universities. While the requirement goes into effect in 1989, the announcement of the requirement was made in 1984. For purposes of assessing FLSPT, however, 1980-81 has been used as the "base year" because (1) FL information may be matched with US Census Bureau statistics, and (2) the base year

predates even the first stages of discussion about the new university entrance requirements (in 1981-82). With a highly reliable data base on FL activity in public secondary schools in Tennessee, it has been possible to ascertain the level of FLSPT at any given administrative level--by individual school, school district, county, or congressional district. Campana (4) assumes "that the average high school teacher has five periods of instruction per day. For each school with language instruction in grades 7-12 the number of FTE (full-time equivalent) foreign language teachers was determined by dividing the number of foreign language classes by five. This figure was then divided by the number of teachers in the school. The resulting percentage shows the numerical relationship between foreign languages and the entire curriculum in a given school and indicates the level of support for foreign languages in that school..." Campana modifies the formula to determine FLSPT in grades 9-12: "[T]he number of FTE foreign language teachers in grades 9-12 was divided by the number of FTE teachers of all subjects in grades 9-12. These figures were determined by calculating the percentage of teachers in each school which can be attributed to a given grade level (e.g., one-third of the teachers in a junior high school covering grades 7-9; two-thirds of the teachers in a junior-senior

high school covering grades 7-12, and so forth (p.28)..." Having determined the level of FLSPT (expressed in terms of percentage), one can get a synchronic view of the level of FLSPT by county and/or by school system. All counties and systems can then be computer-sorted by FLSPT rank in order to distinguish the "haves" from the "have nots" (see Table II). Using the derived FLSPT as a dependent variable, one can compare it to other quantifiable factors to determine the level of interrelationship or "predictability" for all school districts in the state or for selected groupings.

The investigation of selected demographic, economic, and social characteristics may enhance the efforts of the profession and of education officials at all levels in analyzing and predicting FLSPT, or lack of it, in public secondary schools. Moreover, such an investigation may provide an initial framework for a model which may eventually prove useful to other state foreign language organizations, supervisors, and education agencies as a systematic means of producing statistics which aid in state planning in the area of foreign language curricula. Thus, this study is exploratory and heuristic in the sense that it seeks to test if and to what extent quantitative variables are related to the level of FLSPT at the county level.[3]

Of the states which have carried out and published results of census projects on FL offerings in secondary schools, only one has used demographic information in attempting to show how such a factor relates to degree of FL offerings. In its 1979 FL enrollment report (17), the Illinois State Board of Education finds that the school-size does not always correspond directly to the number of FL course offerings. The census results reveals that increases in FL enrollments does not occur until school size approaches the 1000-1699 category, "where the corresponding course offerings more than doubled those of the previous category." The Board called this the "threshold effect" (17,p.12). Such demographic information as found in the Illinois survey can be very helpful in making comparisons among school systems in the state. For example, if schools exceed the "threshold" population but do not conform to the predicted pattern for FL support, then other factors must be sought to account for this apparent aberration.

ASSESSING QUANTIFIABLE VARIABLES IMPINGING ON FLSPT

Like the school-size "threshold" concept discovered in the Illinois FL report cited above, we suspect the examination of the variables listed here to reveal relational information with respect to FLSPT at the county

level in Tennessee. Following are the variables chosen for this study, as well as an indication of their sources:

*POP = Population by county (US Census and annual estimates by state)

*DENSITY = Density of population by county (US Census and annual estimates by state)

*RATE = Rate of population increase by county (US Census and annual estimates by state)

*INCOME = Per capita income by county (US Census, 1980; US Census on triannual basis; annual state reports)

*PCAPTAX = County per capita tax levied (Annual state survey and local government offices)

*EDMONEY = Percentage of total county government expenditures for education (state report on county budgets)

*TSALARY = Average teacher salaries by county (Annual statistical report of the State Department of Education)

*PCTPROF = Percentage of professional employees by county[4] (US Census, 1980)

*HSPCT = Percentage of high school graduates by county (US Census, 1980)

*BACCPCT = Percentage of residents by county with four or more years of higher education (Annual statistical report of the State Department of Education)

*GRADPCT = Percentage of teachers by county with master's degrees and above (US Census, 1980; Annual statistical report of the State Board of Education)

Table III provides a view of the interrelationships among the selected demographic, economic, and educational variables and the relationship of the latter to the dependent variable FLSPT. The Pearson correlations ninety-five Tennessee counties reveal some predictably high interrelationships among the variables, e.g., between POP and DENSITY ($r=.96$, $p<.0001$) and between INCOME and HSPCT ($r=.83$, $p<.0001$). Reading across the top line, one finds that FLSPT correlates significantly with a number of variables; however, the magnitude of these correlations is low to moderate, the highest single predictor of FLSPT being TSALARY ($r=.60$, $p<.0001$), i.e., accounting for only 36% of the variance.

Further statistical analysis of the data makes it possible to isolate those variables which, when taken together, have the greatest impact on FLSPT. Multiple-regression calculations "narrow the field" by taking into account the complex multivariate interrelationships--i.e. considering all eleven "predictor" variables together. The data reveal that the linear combination of variables explains approximately 46% of FLSPT in Tennessee counties.

A closer look at the results of this analysis shows that 43% of FLSPT is "predicted" by two variables: TSALARY (37%) and HSPCT (6%). This means that the remaining nine variables account for only approximately 3% of FLSPT after TSALARY and HSPCT have been entered into the equation (see Table IV). In other words, then, 54% of county FLSPT must be accounted for by variables other than those chosen for the study. These putative variables, whether quantifiable or non-quantifiable, will be discussed in greater detail below.

Regrouping the counties according to level of FLSPT, the top twenty-four and bottom twenty-four FLSPT-ranked counties can be analyzed using the multiple-regression procedure. When both groups are analyzed together using this procedure, it is found that the one variable that distinguishes the groupings is TSALARY, which accounts for 51% of FLSPT. The remaining ten predictor variables added very little explanation.[5] When each grouping is analyzed individually, the results indicate that for the high FLSPT county grouping all eleven variables contribute only 23.4%; however, the fact that none of the variables (not even TSALARY) can be singled out as accounting for more than 6% of predictability and that none of the variables entering the regression equation is statistically significant indicates that factors other than the ones we have chosen

for the model account for FLSPT in the top grouping (FLSPT > 2.24%). Results of the multiple-regression analysis for the twenty-four counties with low FLSPT (FLSPT < 0.85%) reveal that the set of predictor variables accounts for approximately 82% of FLSPT. As a matter of fact, three variables account for 69% of FLSPT for this grouping: POP (42.8%), RATE (14.5%), and PCAPTAX (11.3%)--all significant at the level $p<.01$. Stated another way, demographic and fiscal factors seem to have a greater impact on FL offerings in counties with low population, low rate of growth, and small tax base. By contrast, these factors play a negligible role in counties with relatively higher FLSPT. In addition to the information derived from the statistical procedures above, it may be enlightening to discover which individual counties conform to or digress from expectations with respect to FLSPT. If, for example, any of the ninety-five counties has "favorable" conditions for FLSPT--say, high teacher salaries, a dense population, and a large percentage of professional employees--then those advocating greater FL offerings in public secondary schools might want to take a closer look at those individual county systems with uncharacteristically low levels of FLSPT in order to isolate other factors which may account for this lack of support. Conversely, a county may demonstrate a

high level of FLSPT but be "out of character" in that it lacks those "favorable" conditions; thus, factors (variables) other than those in the current model must be responsible for FLSPT. It is, of course, possible simply to scan the listings, county by county, for such information; there is, however, a more facile method of doing this: discriminant analysis.

In practice, the discriminant analysis procedure makes it possible to predict the probability of high and low levels of FLSPT and identify those counties which do not conform to expectations. In the first application of this procedure, we analyze all ninety-five counties: those above and those below the FLSPT mean (1.57%). Applying all eleven predictor variables to the procedure yields a list of the two categories (those counties above the FLSPT mean and those below) and indicates their individual probability of membership in each grouping (see Table V). Leaving out the zone of ambiguity--i.e., the middle 50% (forty-seven) of the counties with average FLSPT--we can apply the procedure, again, to the top twenty-four and the bottom twenty-four FLSPT counties. The results of this analysis indicate that six counties (25%) of the top FLSPT grouping (> 2.24%) and three counties (12.5%) of the bottom FLSPT grouping

(< 0.85%) deviate from expectations when all eleven FLSPT predictor variables are considered.

From the results of the multiple-regression technique, it has been established that TSALARY is the one variable that distinguishes the top twenty-four and the bottom twenty-four FLSPT counties. Applying this one variable to the discriminant procedure, we find that 13% of the top FLSPT grouping and 4% of the bottom FLSPT grouping do not belong to the predicted FLSPT category. The practical advantages of applying the discriminant procedure should be apparent: Each county that does not conform to the predicted FLSPT has now been singled out statistically, and each of these counties can be scrutinized individually in order to determine "outside" factors for unexpected support for foreign languages or lack of it.

In addition to suggesting statistical procedures to use in analyzing such data, this investigation offers the reader some idea as to the kind of quantifiable variables can be used in predicting secondary school FLSPT at a given administrative level, be it state, congressional district, county, or individual school system. There are doubtless other numerical variables not considered here that can be adduced which may contribute to FLSPT. The choice of variables should, of course, depend on their availability at

measurable intervals so that FLSPT studies can be updated on a continual basis.

Beyond the purely numerical, i.e., continuous, variables of the kind used in this study, it is quite possible--and legitimate--to consider dichotomous or ordinal predictor variables. Any number of conditions found to contribute to FLSPT could be "quantified" dichotomously by assigning plus (=1) and minus (=2) variable values: for example, the presence or lack of ethnic diversity in counties or school districts. The same variable could be "quantified" ordinally, yielding ranks: heavy ethnic diversity (=3), medium ethnic diversity (=2), and low/no ethnic diversity (=1).[6] Other possible dichotomous or ordinal variables impinging on public school FLSPT include proximity of colleges and universities,[7] proximity of international businesses or indigenous firms which engage in export,[8] presence of magnet/vanguard schools,[9] presence of progressive school administrations,[10] academic level (i.e., percentage of secondary school students from a county or school district bound for higher education, and the like (see Sims and Hammond,16).

In their book, Award-Winning Foreign Language Programs: Prescriptions for Success, Sims and Hammond (16) describe fifty of the most successful U.S. secondary school FL

programs, how this success is measured, and contributing factors--number of FLs offered, number of years offered, scope of FL programs, degree of FL proficiency attained, and the like. What is interesting in connection with this study is that a number of these exceptional FL programs seem to lack what Sims and Hammond call "special advantages that automatically ensure [foreign language] prosperity" (16,p.i). Such "special advantages" or favorable conditions may be analogous to some of the "predictor" variables singled out for this study.[11]

In summary, the present study is an attempt to explain the rationale and discuss the procedures for gathering data on FL programs in secondary schools; the study goes beyond other FL surveys in that it suggests a method of presenting the data in a useful format by analyzing FLSPT in terms of quantifiable predictor variables, or "favorable conditions," which may affect the level of this support. Beyond tracking the FL programs themselves, other researchers may find that FLSPT is generally a good indicator of the overall quality of the school system or county's educational program, especially when no FL requirements are present. The predictor variables of the model may also be useful as indicators for this overall level of quality.

Readers who wish to conduct an investigation along the lines of the Tennessee study may write to the authors for suggestions on step-by-step procedures.

Notes

[1]For suggestions on using and publicizing quantitative analyses in order to improve FL support at the state level see Campana (4). On building public awareness at state and community levels, see Royer and McKim (13) and [Illinois] Special Report on Foreign Languages: Illinois State Board of Education (17).

[2]Even ACTFL's latest survey of public secondary school FL enrollments by state (Dandonoli,7) had to estimate the FL data for 15 states which had not returned survey questionnaires. Other FL census surveys relying on mailed questionnaires have been faced with similar problems in their data-gathering efforts. Readers interested in viewing recent FL enrollment surveys in public secondary schools conducted by state education offices and/or state FL organizations are referred to ERIC documentation: Oregon, 1987 (ED283403 FL016801); Illinois, 1972 (ED065010 FL003435), 1979 (ED195160 FL011980) and 1982 (ED260582 FL015159); Kansas, 1984 (ED250909 FL014585); Colorado, 1983 (ED238293 FL014159); North Carolina, 1983 (ED235681 FL013979); Alaska, 1982 (ED233566 FL013862); Tennessee, 1980 (ED208648 FL012531); Montana, 1978 (ED152087 FL009320); South Carolina, 1975 (ED119471 FL007384). The Tennessee data are gathered by means of an annual questionnaire to

public school district superintendents and private school principals, with follow-up letters and telephone calls to ensure 100% participation and a high rate of accuracy.

[3]This investigation is restricted to the county level in order to be in accord with the data supplied by the most recent (1980) US Census. A study of this kind need not be limited to US Census data supplied at ten year intervals. It is realized, however, that data comparable to ten-year US Census report may not be available on a year-to-year basis from the state or regional offices. Thus, for years between US Census reports there may be fewer variables available, especially if data for individual school systems are taken into account, where breakdown below the county level may be difficult to achieve for some variables.

[4]Professional employees include managerial and professional specialty occupations (officials and public administrators), and professional specialty occupations (engineers, lawyers, natural scientists, health diagnosing and healing occupations, teachers, librarians, and counselors).

[5]A multiple-regression analysis of TSALARY itself reveals that a linear combination of six variables shares 68.5% of its "predictability": INCOME accounts for 56% ($p>.0001$), DENSITY for 6.4% ($p>.0001$), and PCAPTAX for 2.5% ($p>.01$);

the three remaining variables together (PCTPROF, EDMONEY, and POP) account for the remaining 3.6% but are not statistically significant.

[6]In the Illinois State Board of Education census report on FLs (17) published in 1979, ordinal variables are used as indices to distinguish "community type": Central City, Suburb, Independent City, and Rural. Crosstabulating FL offerings by community type, the census found that "[f]oreign language enrollments in suburban high schools were more than twice [sic] (223%) that in rural high schools; and of the four community types, suburban high schools had the highest foreign language enrollments" (p. 26).

[7]Universities can play a meaningful role in strengthening FL instruction and FLSPT through local and regional outreach activities and as bases for FL collaboratives. For a concise model for university outreach projects see Pontillo (11). FL collaboratives, both temporary and permanent in nature, offer university and high school FL teachers the opportunity to exchange ideas on curricular articulation and language teaching methodologies. On virtues and pitfalls of FL collaboratives, see Sachs (14). For a broader view of collaboration in the realm of FLs and general education, see Darcey (10). Beyond the exchange of theoretical and

practical aspects of FL teaching and FL acquisition, the FL collaborative can give high school teachers the theoretical input and the moral support they may not otherwise receive at the local level. The Tennessee school/college FL collaboratives, some or all of which will eventually be affiliated with Academic Alliances, were begun in 1987. Seven of the projected nine collaboratives were active by mid-1988, with the others still in the planning stages.

[8]Data on international companies and American businesses which market their products and services abroad may not be available in all states. Although such information has not been used in this study, it is now available, thanks to a 1987 report, prepared under a grant from Title II of the Education for Economic Security Act, in support of the state-funded Tennessee Foreign Language Institute. Tennessee has attracted a sizeable amount of Japanese industry (8-10% of the total throughout the U.S.)--most notably Nissan, Toshiba, Sharp, and Bridgestone--but only one university has added Japanese to its curriculum because of its proximity to a major Japanese company. Of the internationally active businesses in the local area, one (Fleetguard Division of Cummins Engine Co.) has begun its own FL program in French and Spanish and has been supportive

of FLs in the local school system through grants to maintain language lab facilities.

[9]Magnet and vanguard schools, which specialize in liberal arts and/or science curricula often have well developed FL programs--and at lower grade levels. In Tennessee, Meigs Magnet School (Nashville), serving 7th and 8th grade pupils, has a rather high percentage of FLSPT (11.25%) with courses in French, German, Spanish, and Latin, as does Martin Luther King Magnet School (Nashville), a junior high school program (13.00%). The School of Arts and Sciences, a 5th through 8th grade middle school in Chattanooga, offers French and Spanish and has a phenomenal 19% FLSPT. Hume-Fogg Magnet High School of Nashville (grades 9 through 12) offers classes in French, German, Spanish, and Latin with a 10.32% FLSPT. As is the case with the growing number of FLEX/FLES programs in Tennessee (in over a dozen counties, both urban and rural), Magnet schools, which offer a selection of FLs for a number of years, may serve as catalysts for expanded FL programs in area public high schools. On the genesis of a successful grade school FL magnet school project in Pittsburgh, PA, see Wallace (19).

[10]There have been a number of state surveys of public school administrators--from principals to superintendents--to determine their attitudes toward and levels of advocacy

for FL programs. Administrative viewpoints range predictably from the very negative (against FL offerings) to very positive (beginning FLs in lower grades and continuing them up through high school). If such survey information is available, it is possible to "quantify" results in an ordinal fashion and to compute rank order correlations of other ranked variables or to crosstabulate level of advocacy with actual FLSPT and other ranked predictor variables. Those interested in viewing surveys of this kind, see Collins (5), Beard (2), and Crawford-Lange (6).

[11]Although Sims and Hammond (16) do not specifically tabulate "special advantage" factors, information as to community type (blue-collar, white-collar, farmer), average income, and percentage of graduates bound for higher education is supplied for most school systems with award-winning FL programs. It is interesting to note that several award winning FL programs cited in their book do not enjoy "special advantages" of affluent urban or suburban school systems. To mention but one example, the Seymour Community High School in Wisconsin is in an area consisting mostly of farmers and blue-collar workers, has an average income of about $15,000, and is a district in which only 18% of high school graduates go on to institutions of higher education (p. 161-164).

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TABLE I

Number of Classes and Percentage Increases in Foreign Languages in Tennessee Public Schools

LANGUAGE	1980-81	1984-85	1985-86	1986-87	1987-88
French	471	646	790	907	988
German	76	98	126	161	151
Latin	211	239	270	288	270
Russian	3	1	3	3	5
Spanish	694	917	1239	1590	1744
Japanese	0	0	0	0	1
TOTAL	1455	1901	2428	2949	3159

Percentage Increases:

LANGUAGE	1980-81 TO 1984-85	1984-85 TO 1987-88	1980-81 TO 1987-88
French	37.2%	52.9%	109.8%
German	28.9%	54.1%	98.7%
Latin	13.3%	13.0%	28.0%
Russian	(-66.7%)	400.0%	66.7%
Spanish	32.1%	90.2%	151.3%
Japanese	----	100.0%	100.0%
All FLs	30.7%	66.2%	117.1%

Table II

Ranking of Counties in Tennessee by Level of Foreign Language Support (1980-81)

(Extract)

Rank	County	Percent Foreign Language Support (FLSPT)
1	Hamblen	4.06
2	Lake	3.85
3	Anderson	3.54
4	Knox	3.47
5	Williamson	3.45
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25	Sevier	2.20
26	Wilson	2.18
27	Cocke	2.11
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.		
72	Fayette	0.85
73	Monroe	0.83
74	Weakley	0.76
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95	Van Buren	0.00

Table III

Pearson Correlation Coefficients of Variables for all 95 Tennessee Counties

	FLSPT	POP	DENSITY	RATE	INCOME	PCAPTAX	EDMONEY	HSPCT	BACCPCT	TSALARY	GRADPCT	PCTPROF
FLSPT	___	.35*	.42*	.12	.56*	.39*	-.19	.59*	.57*	.60*	.17	.58*
POP		___	.96*	-.14	.57*	.42*	-.31*	.56*	.60*	.59*	.22	.58*
DENSITY			___	-.14	.62*	.45*	-.29*	.61*	.66*	.66*	.24	.66*
RATE				___	.02	.08	.24	.24	.19	-.06	-.04	.20
INCOME					___	.53*	-.35*	.83*	.73*	.75*	.43*	.69*
PCAPTAX						___	-.07	.50*	.46*	.57*	.21	.45*
EDMONEY							___	-.30*	-.26*	-.36*	-.38*	-.27*
HSPCT								___	.87*	.70*	.33*	.82*
BACCPCT									___	.68*	.34*	.93*
TSALARY										___	.37*	.68*
GRADPCT											___	.33*
PCTPROF												

*Significant at the .01 - .0001 level.

Table IV

Summary of Stepwise Regression Analysis of Dependent Variable FLSPT for all 95 Tennessee Counties

Variable	Multiple R	R Square
TSALARY	.6043*	.3652
HSPCT	.2372*	.0563
DENSITY	.0938	.0088
GRADPCT	.0836	.0070
POP	.0748	.0056
BACCPCT	.0574	.0033
RATE	.0469	.0022
INCOME	.0412	.0017
PCAPTAX	.0141	.0002
EDMONEY	.0141	.0002

*Significant at the .0001 level.

No other Multiple R is significant at the .01 level.

Table V

Discriminant Analysis Procedure Applied to All 95 Tennessee Counties above (Class 1) and below (Class 2) the FLSPT Mean (1.57%) across 11 Predictor Variables

(Extract)

County	Actual Class	Expected Class	Probability of Membership in Class 1	Class 2
Anderson	1	1	.95	.05
Bedford	2	2	.18	.82
.				
.				
Campbell	2	1*	.54	.46
.				
.				
Chester	1	2*	.29	.71
.				
.				
Lake	1	2*	.09	.91
.				
.				
Williamson	1	1	.99	.01
Wilson	1	1	.82	.18

Note: Asterisk (*) denotes county misclassification with respect to level of FLSPT; i.e., Campbell belongs to Class 2 (below FLSPT mean) but "should" be in class 1 (above FLSPT mean) according to predictor variables. The reverse is true for Chester and Lake Counties.